

We Claim:

1. An electromigration test structure for detecting reliability of wirings, comprising:

first and second test structure terminal regions for impressing a heating current;

a region to be tested having an electromigration region with a constant material flow and an electromigration barrier region with a reduced material flow, said region to be tested connected between said first and second structure terminal regions, said electromigration region structured for producing a substantially homogeneous temperature distribution therein;

first and second sensor terminals coupled to and detecting a failure of said region to be tested; and

a third sensor terminal for detecting a temperature of said electromigration region and connected to said electromigration region in direct proximity to said electromigration barrier region, said third sensor terminal formed in direct proximity to said electromigration barrier region at least partially parallel to said first test structure terminal region and having a smaller interconnect width than said electromigration region.

2. The electromigration test structure according to claim 1, wherein said electromigration barrier region is a contact.
3. The electromigration test structure according to claim 1, wherein said electromigration region is a metallic interconnect having a constant width.
4. The electromigration test structure according to claim 1, wherein said first and second test structure terminal regions each have a tapering toward said region to be tested.
5. The electromigration test structure according to claim 4, wherein said tapering is formed in a stepped fashion.
6. The electromigration test structure according to claim 1, wherein said first sensor terminal is configured such that a temperature equalization with respect to said electromigration region can take place.
7. The electromigration test structure according to claim 4, wherein said second sensor terminal is formed at said second test structure terminal region in a region of said tapering.
8. The electromigration test structure according to claim 1, wherein a cross-sectional area of at least one of said first and second test structure terminal regions, of said

electromigration region and of said electromigration barrier region is configured such that a respective temperature gradient of at most a predetermined value exists when a temperature is reached.

9. The electromigration test structure according to claim 1, further comprising at least one dummy structure formed essentially parallel to said region to be tested.

10. The electromigration test structure according to claim 9, wherein said dummy structure has at least one of a dummy electromigration region, a dummy electromigration barrier region and a dummy terminal region.

11. The electromigration test structure according to claim 9, wherein said dummy structure is spaced apart from said region to be tested with a minimum structure width.

12. The electromigration test structure according to claim 1, further comprising a circuit selected from the group consisting of a semiconductor circuit and a thin-film circuit, said circuit containing said first and second test structure terminal regions, said region to be tested, said first, second and third sensor terminals.

13. The electromigration test structure according to claim 1, wherein the electromigration test structure is configured for highly accelerated tests with Joule heating.

14. An electromigration test structure for detecting reliability of wirings, a region to be tested having an electromigration region with a constant material flow and an electromigration barrier region with a reduced material flow, the electromigration region structured for producing a substantially homogeneous temperature distribution therein, the electromigration test structure comprising:

first and second test structure terminal regions for impressing a heating current, the region to be tested connected between said first and second structure terminal regions;

first and second sensor terminals coupled to and detecting a failure of the region to be tested; and

a third sensor terminal for detecting a temperature of the electromigration region and connected to the electromigration region in direct proximity to the electromigration barrier region, said third sensor terminal formed in direct proximity to the electromigration barrier region at least partially parallel to said first test structure terminal region and

having a smaller interconnect width than the electromigration region.